U.S. DEPARTMENT OF COMMERCE
NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
(formerly National Bureau of Standards-NBS)
OFFICE OF STANDARDS SERVICES

COMMERCIAL STANDARD CS239-63

TFE FLUOROCARBON (POLYTETRAFLUOROETHYLENE) RESIN SHEET

Commercial Standard CS239-63, TFE Fluorocarbon (Polytetrafluoroethylene) Resin Sheet, was withdrawn by the U.S. Department of Commerce on July 17, 1978.

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The following standard was used to replace CS239-63: ASTM D3293-90, Standard Specification for PTFE Resin Molded Sheet.

This ASTM standard is under the jurisdiction of Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.15 on Thermoplastic Materials (Section 20.15.12).

For assistance for information on additional standards and/or other sources, and subcommittees/committees, contact:

American Society for Testing and Materials (ASTM)
100 Barr Harbor Road
West Conshohocken, Pennsylvania 19428-2959, USA
Telephone: (610) 832-9500/-9585; Fax: (610) 832-9555
Internet: http://www.astm.org

ASTM Technical Committee D20 Staff Manager
Telephone: (610) 832-9721; Committees Fax: (610) 832-9666

federal register

DEPARTMENT OF COMMERCE

National Bureau of Standards

[3510-13]

TFE-FLUOROCARBON RESIN SHEET

Action on Proposed Withdrawal of Commercial Standard

In accordance with section 10.12 of the Department's "Procedures for the Development of voluntary Product Standards" (15 CFR Part 10), notice is hereby given of the withdrawal of Commercial Standard CS 239-63, "TFE-Fluorocarbon (Polytetra-fluoroethylene) Resin Sheet."

This withdrawal action is being taken for the reason that CS 239-63 is adequately covered by the American Society for Testing and Materials' standard ASTM D3293-74, "Standard Specification for TFE-Fluorocarbon Resin Sheet," and duplication is inappropriate and not in the public interest. This action is taken in furtherance of the Department's announced intentions as set forth in the public notice appearing in the *Federal Register* of March 7, 1978 (43 FR 9330), to withdraw this standard.

The effective date for the withdrawal of this standard will be on July 17, 1978. This withdrawal action terminates the authority to refer to this standard as a voluntary standard developed under the Department of Commerce procedures.

Dated: May 12, 1978.

ERNEST AMBLER,
Director.

[FR Doc. 78-13485 Filed 5-17-78; 8:45 am]

Reprinted from:
FEDERAL REGISTER, VOL. 43, NO. 97—THURSDAY, MAY 18,

Commercial Standard CS239-63

WITHDRAWN

TFE Fluorocarbon (Polytetrafluoroethylene) Resin Sheet

A recorded voluntary standard of the trade published by the U.S. Department of Commerce

WITHDRAWN

For sale by the Superintendent of Documents
U.S. Government Printing Office, Washington 25, D.C. - Price 10 cents

U.S. DEPARTMENT OF COMMERCE
OFFICE OF TECHNICAL SERVICES
Commodity Standards Division

With the cooperation of the
National Bureau of Standards

EFFECTIVE DATE

Having been passed through the regular procedures of the Commodity Standards Division, and approved by the acceptors hereinafter listed, this Commercial Standard is issued by the U.S. Department of Commerce effective February 1, 1963.

LUTHER H. HODGES, *Secretary.*

COMMERCIAL STANDARDS

Commercial Standards are developed by manufacturers, distributors, and users in cooperation with the Commodity Standards Division of the Office of Technical Services and with the National Bureau of Standards. Their purpose is to establish quality criteria, standard methods of test, rating, certification, and labeling of manufactured commodities, and to provide uniform bases for fair competition.

The adoption and use of a Commercial Standard is voluntary. However, when reference to a Commercial Standard is made in contracts, labels, invoices, or advertising literature, the provisions of the standard are enforcible through usual legal channels as a part of the sales contract.

Commercial Standards originate with the proponent industry. The sponsors may be manufacturers, distributors, or users of the specific product. One of these three elements of industry submits to the Commodity Standards Division the necessary data to be used as the basis for developing a standard of practice. The division by means of assembled conferences or letter referenda, or both, assists the sponsor group in arriving at a tentative standard of practice and thereafter refers it to the other elements of the same industry for approval or for constructive criticism that will be helpful in making any necessary adjustments. The regular procedure of the division assures continuous servicing of each Commercial Standard through review and revision whenever, in the opinion of the industry, changing conditions warrant such action.

SIMPLIFIED PRACTICE RECOMMENDATIONS

Under a similar procedure the Commodity Standards Division cooperates with industries in the establishment of Simplified Practice Recommendations. Their purpose is to eliminate avoidable waste through the establishment of standards of practice for sizes, dimensions, varieties, or other characteristics of specific products; to simplify packaging practices; and to establish simplified methods of performing specific tasks.

The initial printing of CS239-63 was made possible through the cooperation of the Fluorocarbons Division of the Society of the Plastics Industry.

TFE-Fluorocarbon (Polytetrafluoroethylene) Resin Sheet

[Effective February 1, 1963]

1. PURPOSE

1.1 The purpose of this Commercial Standard is to establish a national standard of quality for the information and guidance of producers, distributors and users; to promote understanding between buyers and sellers; to provide a basis for fair competition among producers; to give the consumer confidence in the quality of the product, and to provide means for identifying polytetrafluoroethylene sheet (referred to herein as TFE-Fluorocarbon Resin or TFE Sheet) produced in conformance with this standard.

2. SCOPE AND CLASSIFICATION

2.1 ***Scope.***—This standard establishes requirements and methods of test for the material, dimensions, workmanship, and the physical and electrical properties of three grades of TFE sheet furnished in minimum thicknesses of 1/32 inch. Provision is included for identifying TFE sheet that complies with this standard.

2.2 ***Classification.***—This standard covers three grades of TFE plastic sheets as follows:

Grade A—Premium.
Grade B—General Purpose.
Grade C—Mechanical.

2.3 ***Definitions.***—

Grade A—A premium grade sheet having maximum physical and electrical properties to meet rigid requirements.

Grade B—A general purpose grade sheet having properties required for general electrical, mechanical and chemical applications.

Grade C—A mechanical grade sheet for noncritical chemical, electrical and mechanical applications.

2.4 ***Limitations.***—The physical and electrical requirements specified herein are for sheets up to and including 1/4 inch in thickness and not stress-relieved.

3. REQUIREMENTS

3.1 ***Material.***—The sheet shall be made from unpigmented TFE-fluorocarbon resin as free of foreign matter as commercially practicable.

3.2 ***Color.***—The color of the sheet may vary from white to mottled gray or brown. Small gray, brown or black spots shall not be considered as cause for rejection.

3.3 ***Finish.***—The material shall be as free as is commercially practicable from surface blisters, wrinkles, cracks, and other surface

defects that might affect its serviceability, and from macroscopic voids, cracks, and foreign inclusions.

3.4 *Dimensions and tolerances.*

3.4.1 *Size.*—The sheet size shall be as designated in the contract or purchase order. The tolerance on length and width shall be plus ¼ inch, minus 0 inch.

3.4.2 *Thickness.*—The nominal sheet thicknesses and tolerances shall be as shown in table I.

TABLE I.—*Nominal thicknesses for TFE sheets*

Thickness	Tolerance	Thickness	Tolerance	Thickness	Tolerance	
Inch	*Inch*	*Inch*	*Inch*	*Inch*	*Inch*	*Percent*
1/32	+0.015 −.005	¼	+0.030 −.015	1¼	+0.102 −.051	---
1/16	+.015 −.005	3/8	+.038 −.019	1½	+.118 −.059	---
3/32	+.020 −.005	½	+.046 −.022	1¾	+.134 −.067	---
⅛	+.016 −.008	5/8	+.054 −.027	2	+.150 −.075	---
5/32	+.018 −.009	¾	+.070 −.035	Over 2	---	±10
3/16	+.022 −.011	1	+.087 −.043	---	---	---

3.5 *Physical and electrical requirements.*—The TFE sheet covered by this standard shall meet the physical and electrical requirements specified in table II and 3.5.1, when tested by the methods given in section 4.

TABLE II.—*Physical and electrical requirements for TFE sheets*

Grade	Tensile [1] strength (min.)	Elongation [1] (min.)	Dielectric [2] strength (min.)	Specific [3] gravity	Porosity [4]
	P.S.I.	*Percent*	*Volts per mil*		
A	4000	300	600	2.14–2.20	Zero penetration.
B	3000	200	500	2.14–2.19	Not required.
C	2000	150	300	2.13–2.19	Not required.

[1] See 4.4.1.
[2] See 4.4.2.
[3] See 4.4.4.
[4] See 4.4.5.

3.5.1 *Melting point.*—The melting point for all grades of sheet shall be 327°±10° C. when tested in accordance with 4.4.3.

4. TEST METHODS

4.1 *Conditioning.*—The test specimens shall be conditioned in accordance with Procedure A of ASTM Designation D618–61,[1] Standard Method of Conditioning Plastics and Electrical Insulating Materials for Testing, and shall be tested under these conditions except that the maintenance of constant humidity is not necessary.

4.2 *Sampling.*—Lot acceptance requirements are the direct concern of the user or the purchaser of the material. The sampling plan described in the following two paragraphs is included only for the guidance and use of purchasers in the absence of alternative contractual provisions.

[1] Copies of ASTM publications are obtainable from The American Society for Testing Materials, 1916 Race Street, Philadelphia 3, Pa.

4.2.1 ***Lot size.***—A lot shall consist of all sheets of the same grade, size and thickness offered for delivery or inspection at one time.

4.2.2 ***Sampling for inspection and test.***—A sample of sheets shall be selected at random from each lot in accordance with table III. Test specimens shall be cut from one face or one edge of each of the sample sheets, sufficient in number to establish conformance with the requirements of table II and 3.5.1. The average value for the indicated number of specimens from a sheet shall be used to determine conformance of the sheet with the requirements of this standard.

TABLE III.—*Size of sample*

Number of sheets in lot	Number of sheets in sample [1]		
	1/32" to 1/8" thick	1/8" to 1/2" thick	Over 1/2" thick
Under 11	1	1	1
11 to 25	1	1	1
26 to 65	2	1	1
66 to 180	3	2	1
181 to 800	5	3	2
801 to 1,300	7	5	3
1,301 to 3,200	10	7	5
3,201 to 8,000	15	10	7

[1] Unless otherwise specified, physical tests shall not be required on small lots when one sheet is selected. For sample sizes under 10, failure of one sheet shall be considered sufficient grounds for rejection or retesting. For sample sizes of 10 and 15, one failure shall be permitted, unless otherwise specified.

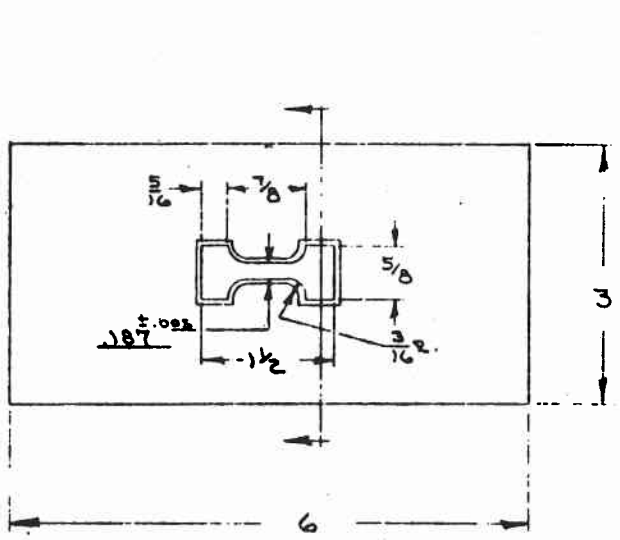
4.3 ***Inspection.***

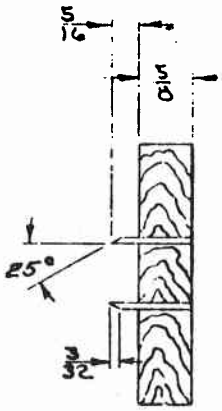
4.3.1 ***Visual and dimensional inspection.***—Each of the sample TFE sheets selected in accordance with 4.2.2 shall be visually and dimensionally inspected to verify their compliance with the requirements of the standard. Occasional superficial flaws in TFE sheet should be interpreted as neither affecting the porosity nor soundness of the sheet. Such flaws are scratches, edge cracks, and the adherence of resin flakes. Such indications shall not be cause for rejection.

4.4 ***Tests.***

4.4.1 ***Tensile strength and elongation.***—The ultimate tensile strength and elongation shall be determined in accordance with ASTM Designation D638–61T, Tentative Method of Test for Tensile Properties of Plastics, except as follows:

1. For sheets 1/16" or under in thickness, five micro-specimens shall be cut to dimensions shown in ASTM D1457–56T, Tentative Specifications for Tetrafluoroethylene Resin Molding and Extrusion Materials, with steel rule die shown in figure 1 using a hydraulic or mechanical press. Sheets thicker than 1/16" and thinner than 5/8" shall be machined to a thickness of 1/16"±0.010" and five specimens shall be cut from these reduced portions. From sheets 5/8" and over in thickness, a slice somewhat thicker than 1/16" shall be cut from one edge but not less than 1/2" distant from that edge and shall be machined on both faces to a thickness of 1/16"±0.010". The five test specimens shall be cut from the machined slice. In all cases of specimens reduced to 1/16" by machining, tool marks shall be removed by light sanding in a longitudinal direction. When cutting the specimen, it shall be backed by a hard surface such as Masonite or equal with a piece of cardboard such as

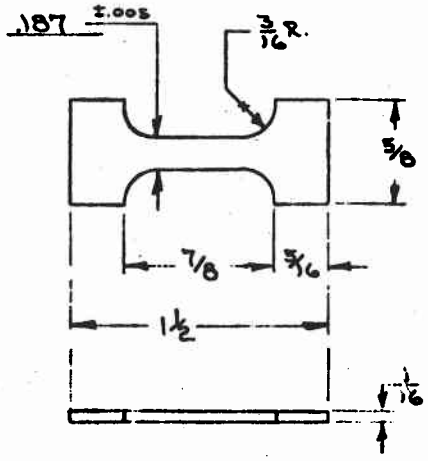




NOTES

1. DIMENSIONS OF DIE OPENINGS ARE INSIDE DIMENSIONS.
2. DIE TO BE SHARPENED ON OUTSIDE EDGE ONLY.
3. ALL DIMENSIONS ARE IN INCHES.

STEEL RULE DIE



TEST SPECIMEN

FIGURE 1. – TENSILE TEST SPECIMEN AND DIE

that used in a tabulating machine, between said hard surface and specimen. The most ideal cutting condition is obtained by the use of a mechanical press adjusted for penetration into but not through the cardboard.

2. Testing speed shall be 2.0″ per minute.
3. Elongation shall be determined by using an initial jaw separation of 0.875″.

4.4.2 ***Dielectric strength.***—The dielectric strength shall be determined in accordance with ASTM Designation D149–61, Methods of Test for Dielectric Breakdown Voltage and Dielectric Strength of Electrical Insulating Materials at Commercial Power Frequencies, using the short time test. The test shall be run under oil using five specimens 0.060±0.010 inch thick and ¼ inch diameter electrodes with $\frac{1}{32}$ inch rounded edge.

4.4.3 ***Melting point.***—The melting point shall be determined on one specimen in accordance with ASTM Designation D1457–56T, Tentative Specifications for Tetrafluoroethylene Resin Molding and Extrusion Materials.

4.4.4 ***Specific gravity.***—The specific gravity shall be determined on two specimens in accordance with Method A of ASTM Designation D792–60T, Standard Methods of Test for Specific Gravity of Plastics. Two drops of a wetting agent [2] (liquid detergent) shall be added to the water in order to reduce the surface tension and insure complete wetting of the sample. The gradient tube method ASTM Designation D1505–60T, Measurement of Density of Plastics by the Density-Gradient Technique, may be used as an alternate, testing three specimens.

4.4.5 ***Porosity.***—The porosity of grade A sheet shall be determined by the penetrant dye test.

4.4.5.1 ***Specimen preparation.***—One full-size sheet shall be used for the porosity test. The entire surface of the sheet shall be degreased with folded paper wiping tissues wet with Spotcheck [3] cleaner. The excess cleaner shall be removed and the surface permitted to dry for at least 5 minutes.

4.4.5.2 ***Test procedure.***—A film of Spotcheck penetrant shall be deposited on the entire surface of the sheet and allowed to stand for 5 minutes. If penetrant appears to dry prematurely the surface shall be rewetted with penetrant and allowed to dry for one (1) minute longer. The penetrant shall then be removed by wiping with a tissue, followed by scrubbing the entire surface thoroughly with tissues wet with Spotcheck cleaner. (Spotcheck developer is not required.) When dry inspect entire surface for indication of discoloration caused by the penetrant. Retained areas of penetrant which appear cloudy or hazy indicate porosity. Occasional superficial flaws in TFE sheet as stated in 4.3.1 shall not be interpreted as porosity.

5. PACKING

5.1 The TFE sheet shall be packed in such a manner as to provide reasonable protection against damage in ordinary handling and transportation.

[2] "Joy", "Glim" or Triton X–100 (Rohm & Haas) have been found satisfactory for the purpose.

[3] Spotcheck cleaner and penetrant may be obtained from the Magnaflux Corp., 7300 West Lawrence Ave., Chicago, Ill.

6. IDENTIFICATION

6.1 ***Identification.***—In order that the purchaser may be assured that the TFE sheets purchased actually comply with all requirements of this Commercial Standard, it is recommended that manufacturers include the following statement in conjunction with their name and address on labels, invoices, sales literature, etc.:

> This TFE sheet complies with all requirements for Grade ——, as specified in CS239–63, as developed by the industry under the procedure of the Commodity Standards Division, and issued by the United States Department of Commerce.

or, more briefly—

> Conforms to CS239–63, Grade ——, as developed by the industry and issued by the United States Department of Commerce.

HISTORY OF PROJECT

In a letter dated June 23, 1959, The Society of the Plastics Industry, Inc., requested the cooperation of the Commodity Standards Division in the establishment of a Commercial Standard for Polytetrafluoroethylene Sheet, and submitted as a basis for the standard a draft of a proposed specification developed by the Fluorocarbons Division of that organization.

The Commodity Standards Division circulated copies of the proposed Commercial Standard to representative producers, testing laboratories, users and Government agencies for constructive comment. All comments and suggestions received were carefully considered and adjustments were made to the proposal to satisfy the comment wherever practicable. The recommended Commercial Standard, TS–5528, was circulated to the trade on April 12, 1961, for acceptance.

On January 8, 1962, the Commodity Standards Division announced that acceptances had been received representing a satisfactory majority of the industry and the Commercial Standard, to be designated CS 239–63 would be considered effective February 15, 1962. Subsequently the Fluorocarbons Division requested that the printing of the standard be withheld, pending further consideration of the physical and electrical requirements specified in Table II. On November 7, 1962, the Commodity Standards Division circulated a recommended revision of Table II to all acceptors of record. General concurrence was received and the standard, redesignated as CS239–63, was made effective as of February 1, 1963.

Project Manager: D. R. Stevenson, Commodity Standards Division, Office of Technical Services.

Technical Advisor: Dr. G. M. Kline, Chief, Organic and Fibrous Materials Division, National Bureau of Standards.

STANDING COMMITTEE

The following individuals comprise the membership of the standing committee, which is to review, prior to circulation for acceptance, revisions proposed to keep the standard abreast of progress. Comment concerning the standard and suggestions for revision may be addressed to any member of the committee or to the Commodity Standards Division, Office of Technical Services, United States Department of Commerce, which acts as secretary for the committee.

FRANK WEEDEN, John L. Dore, Inc., 5406 Schuler St., Houston 7, Tex. (Chairman)
GEORGE CARLYON, Cadillac Plastic & Chemical Co., 15111 Second Ave., Detroit 3, Mich.
MICHAEL ZANGRILLO, Dilectrix Corporation, Allen Blvd., Farmingdale, L.I., N.Y.
EDGAR C. SURATT, Polychemicals Department, E. I. duPont de Nemours & Co., Inc., Wilmington 98, Del.
LESTER K. KEEN, Raybestos-Manhattan, Inc., Manheim, Pa.
E. C. BERTOLET, JR., Garlock, Inc., 602 N. 10th St., Camden, N.J.
MERRILL M. MAIN, Crane Packing Co., 6400 Oakton St., Morton Grove, Ill.

APPENDIX A

A1. The following information and test methods are provided for general use and do not constitute a requirement of this Commercial Standard.

A2. ***Dimensional stability.***—TFE Fluorocarbon Resin Sheet as normally processed will contain internal stresses. The magnitude of these stresses will vary with the thickness. These stresses may result in dimensional changes when parts cut therefrom are heated or machined. Annealing the sheet may relieve some of the stresses and may distort the surface and flatness of the sheet. However, this stress-relief treatment is only partially effective. The magnitude of the residual stresses is not uniform throughout and varies with the size. It is clear that no amount of annealing will insure complete stability in the final product. The best dimensional stability in a finished product can only be accomplished by carrying out a stress-relief procedure on a finished part after all cutting operations are complete. For close tolerances on a finished part, the best procedure is to fabricate to approximate dimensions, stress relieve and then finish to specified dimensions.

A3. ***Properties.***—Approximate values for the mechanical, physical, and chemical properties of TFE Fluorocarbon Resin Sheet are given in table A1.

TABLE A1.—*Mechanical, Physical and Chemical Properties*

Property	Value	Test Method (ASTM Designation)
Dissipation Factor, 1,000 cycles	0.0005 max	D150–59T Test for A-C Capacitance, Dielectric Constant and Loss Characteristics of Electrical Insulating Materials.
Dielectric Constant, 1,000 cycles	2.0 to 2.1	D150–59T.
Volume Resistivity	Over 10^{16} ohm cm	D257–61 Electrical Resistance of Insulating Materials.
Surface Resistivity, 100% R.H.	3.6×10^{6} megohms	D257–61.
Stiffness, 73° F	50,000–90,000 psi	D747–61T Test for Stiffness in Flexure of Plastics.
Compressibility	16–22%	D1147–61T Compressibility and Recovery of Gasket Materials.
Hardness, Durometer D	50–65	D676–59T Indentation Hardness of Plastics by Means of a Durometer-using Type D Durometer.
Impact Strength, Izod:		
−70° F	2.0 ft. lbs/in. of notch	D256–56.
73° F	3.0 ft. lbs/in. of notch	
170° F	6.0 ft. lbs/in. of notch	
Coefficient of Linear Thermal Expansion:		
77° F. to −178° F	6.21×10^{-5}	D696–44 Coefficient of Linear Thermal Expansion of Plastics.
77° F. to −58° F	7.50×10^{-5}	
77° F. to 32° F	11.10×10^{-5}	
77° F. to 212° F	6.90×10^{-5}	
77° F. to 482° F	9.70×10^{-5}	
77° F. to 572° F	12.10×10^{-5}	
Deformation Under Load:		
73° F./1,000 psi/24 hr	2–3%	D621–59 Deformation of Plastics Under Load.
122° F./1,200 psi/24 hr	4–8%	
Thermal Conductivity, 0.18 inch.	1.7 BTU/hr./sq. ft./°F./in	Cenco-Fitch apparatus.
Water Absorption	0.01%	D570–59aT Water Absorption of Plastics.
Flammability	Nonflammable	D635–56T Test for Flammability of Rigid Plastics Over 0.050 in. in Thickness (Tentative).
Static Coefficient of friction, 20 lb. load.	0.04	Inclined-plane method.
Chemical Resistance	Inert to almost all chemicals and solvents.	

ACCEPTORS

The manufacturers, distributors, users and others listed below have individually indicated in writing their acceptance of this Commercial Standard prior to its publication. The acceptances indicate an intention to utilize the standard as far as practicable, but reserve the right to depart from it as may be deemed desirable. The list is published to show the extent of recorded public support for the standard and should not be construed as indicating that all products made by the acceptors actually comply with its requirements.

Products that meet all requirements of the standard may be identified as such by a certificate, grade mark, or label. Purchasers are encouraged to require such specific evidence of compliance, which may be given by the manufacturer whether or not he is an acceptor.

ASSOCIATIONS

(General Support)

Society of the Plastics Industry, Inc., New York, N.Y.

FIRMS AND OTHER INTERESTS

Accurate Felt & Gasket Manufacturing Co., Inc., Chicago, Ill.
Acme Manufacturing & Gasket Co., Philadelphia, Pa.
Aero Gasket Corp., Meriden, Conn.
Aeromotive Specialties Corp., Detroit, Mich.
Aeroquip Corp., Jackson, Mich.
Allegheny Plastics, Inc., Coraopolis, Pa.
Allis-Chalmers Manufacturing Co., Milwaukee, Wis.
Alloy Steel Products Co., Linden, N.J.
American Durafilm Co., Inc., Newton Lower Falls, Mass.
American Super Temperature Wires, Inc., Winooski, Vt.
Anchor Packing Co., Philadelphia, Pa.
Associated Gaskets, Inc., Bridgeport, Conn.
Auburn Manufacturing Co., Middletown, Conn.

Balfor Industries, Inc., New York, N.Y.
Beemer Engineering Co., Washington, Pa.
Black, Sivalls & Bryson, Inc., Kansas City, Mo.

Blemker Co., Cincinnati, Ohio
Bendix Corporation, South Bend, Ind.
Borg Equipment Div., Amphenol Borg Electronics Corp., Janesville, Wis.
Byron Jackson—Div. of Borg Warner, Los Angeles, Calif.

Cadillac Plastic & Chemical Co., Detroit, Mich.
Century Electric Co., St. Louis, Mo.
C & H Plastic Production, Norwalk, Conn.
Chase Sales Co., Hayward, Calif.
Chemical Coatings & Engineering Co., Inc., Media, Pa.
Chemical & Power Products, Inc., New York, N.Y.
Chicago-Allis Manufacturing Corp., Chicago, Ill.
Chicago Condenser Corp., Chicago, Ill.
Chicago Rawhide Manufacturing Co., Elgin, Ill.
Colonial Kolonite Co., Chicago, Ill.
Commercial Plastics & Supply Corp., New York, N.Y.
Connecticut Hard Rubber Co., New Haven, Conn.
Crane Packing Co., Morton Grove, Ill.
Crippen Laboratories, Inc., Div. of Foster D. Snell, Inc., Baltimore, Md.

Detroit Ball Bearing Co. of Michigan, Detroit, Mich.
Dilectrix Corp., Farmingdale, L.I., N.Y.
Dixon Corp., Bristol, R.I.
Dodge Fibers Corp., Hoosick Falls, N.Y.
Dodge-Wasmund Corp., Pico-Rivera, Calif.
Dore, John L., Co., Houston, Tex.
DuPont de Nemours, Inc., Wilmington 98, Del. (General Support.)
Dura Plastics of New York, Inc., Westport, Conn.
Duriron Co., Inc., Dayton, Ohio

Eco Engineering Co., Newark, N.J.
Electric Auto-Lite Co., Toledo, Ohio
Electric Furnace Corp., Chattanooga, Tenn.
Enflo Corp., Maple Shade, N.J.
Ethylene Corp., Summit, N.J.

Flick-Reedy Corp., Bensenville, Ill.
Fluorocarbon Co., Anaheim, Calif.
Fluoro-Plastics, Inc., Philadelphia, Pa.
Fluorulon Laboratories, Inc., Caldwell, N.J.

Garlock, Inc., Palmyra, N.Y.
General Plastics Corp., Bloomfield, N.J. (General Support.)
General Radio Co., W. Concord, Mass.
Gilbert Plastics & Supply Co., Inc., Baltimore, Md.
Glaco Co. of Southern Calif., Whittier, Calif.
Glascote Prod., Inc., Cleveland, Ohio
Greene, Tweed & Co., North Wales, Pa.

Halogen Insulator & Seal Corp., Franklin Park, Ill.
Hitemp Wires Co., Westbury, N.Y.
Hoke, Inc., Cresskill, N.J.
Holyoke Wire & Cable Corp., Holyoke, Mass. (General Support.)
Houdaille Industries, Inc., Buffalo, N.Y.

International Business Machines Corp., New York, N.Y.
International Packings Corp., Bristol, N.H.

Johns-Manville Corp., New York, N.Y.

Kickhaefer Manufacturing Co., Milwaukee, Wis.
Kurz-Kasch, Inc., Dayton, Ohio

Lewis Engineering Co., Naugatuck, Conn. (General Support.)
Liquid Nitrogen Processing Corp., Malvern, Pa. (General Support.)
Lockheed Electronics, Avionics & Industrial Prod. Div., Los Angeles, Calif.

Mic-Lin Co., Maple Shade, N.J.
Minnesota Mining & Manufacturing Co., St. Paul, Minn.
Moore, Irving B., Corp., Boston, Mass.
Mueller Co., Decatur, Ill.

Naugatuck Chemical Div., U.S. Rubber Co., Naugatuck, Conn.
New York Testing Laboratories, Inc., New York, N.Y.

Pall Corp., Micro Metallic Div., Glen Cove, N.Y.
Pennsylvania Fluorocarbon Co., Inc., Philadelphia, Pa.
Permacel, New Brunswick, N.J. (General Support.)
Philco Corp., Philadelphia, Pa.
Plastic Fabricators, Inc., Wilmington, Del.
Plastic & Rubber Products Co., Gardena, Calif.
Potter Co., Brookhaven, Miss.

Radio Corp. of America, Camden, N.J.
Raybestos-Manhattan, Inc., Manheim, Pa.
Reeves Instrument Corp., Farmingdale, N.J.
Reid Enterprises, Inc., Long Beach, Calif.
Resistoflex Corp., Roseland, N.J.
R F Products, Div. of Amphenol-Borg Electronics Corp., Danbury, Conn.
Roper Hydraulics, Inc., Commerce, Ga.

Sealectro Corp., Mamaroneck, N.Y.
Sealol, Inc., Providence, R.I.
Servomechanisms, Inc., El Segundo, Calif.
Simplex Manufacturing Co., Inc., Auburn, N.Y.
Southwestern Laboratories, Ft. Worth, Tex.
Sparta Manufacturing Co., Div. U.S. Ceramic Tile Co., Dover, Ohio
S & S Manufacturing Co., Rahway, N.J.
Stancor Electronics, Inc., Chicago, Ill.
Surprenat Manufacturing Co., Clinton, Mass.

Tektronix, Inc., Beaverton, Ore.
Tensolite Insulated Wire Co., Inc., Tarrytown, N.Y.
Thomson Electric Co., Inc., New York, N.Y.
Timely Technical Products, Inc., Verona, N.J.
Titeflex, Inc., Springfield, Mass.
Toefco Engineering, Inc., Niles, Mich.
Torrington Co., Torrington, Conn.
Tri-Point Industries, Inc., Albertson, L.I., N.Y.
Twining Laboratories, Inc., Fresno, Calif.

Union Carbide Plastics Co., New York, N.Y.
United States Gasket Co., Inc., Camden, N.J.

Watson Stillman, Div. of Farrel-Birmingham Co., Inc., Rochester, N.Y.
Weatherhead Co., Cleveland, Ohio
Willys Motors, Inc., Toledo, Ohio

U.S. GOVERNMENT

Aeronautical Systems Div., ASRCEE–2, Wright-Patterson AFB, Ohio
Naval Air Material Center, Philadelphia, Pa.
U.S. Atomic Energy Commission, Div. of Construction & Supply, Washington, D.C.
Veterans Administration, Washington, D.C.

ACCEPTANCE OF COMMERCIAL STANDARD

CS239-63 TFE Fluorocarbon (Polytetrafluoroethylene) Resin Sheet

If acceptance has not previously been filed, this sheet properly filled in, signed, and returned will provide for the recording of your organization as an acceptor of this Commercial Standard.

Date_____

Commodity Standards Division
Office of Technical Services
U. S. Department of Commerce
Washington 25, D. C.

Gentlemen:

We believe that this Commercial Standard constitutes a useful standard of practice, and we individually plan to utilize it as far as practicable in the

production[1] distribution purchase[1] testing[1]

of this commodity.

We reserve the right to depart from the standard as we deem advisable.

We understand, of course, that only those articles which actually comply with the standard in all respects can be identified or labeled as conforming thereto.

Signature of authorized officer_____
(In ink)

_____

(Kindly typewrite or print the following lines)

Name and title of above officer_____

Organization _____
(Fill in exactly as it should be listed)

Street address_____

City, zone, and State _____

(Cut on this line)

[1] Underscore the applicable words. Please see that separate acceptances are filed for all subsidiary companies and affiliates which should be listed separately as acceptors. In the case of related interest, trade associations, trade papers, etc., desiring to record their general support, the words "General support" should be added after the signature.

TO THE ACCEPTOR

The following statements answer the usual questions arising in connection with the acceptance and its significance:

1. *Enforcement.*—Commercial Standards are commodity specifications voluntarily established by mutual consent of those concerned. They present a common basis of understanding between the producer, distributor, and consumer and should not be confused with any plan of governmental regulation or control. The United States Department of Commerce has no regulatory power in the enforcement of their provisions, but since they represent the will of the interested groups as a whole, their provisions through usage soon become established as trade customs, and are made effective through incorporation into sales contracts by means of labels, invoices, and the like.

2. *The acceptor's responsibility.*—The purpose of Commercial Standards is to establish, for specific commodities, nationally recognized grades or consumer criteria, and the benefits therefrom will be measurable in direct proportion to their general recognition and actual use. Instances will occur when it may be necessary to deviate from the standard and the signing of an acceptance does not preclude such departures; however, such signature indicates an intention to follow the standard, where practicable, in the production, distribution, or consumption of the article in question.

3. *The Department's responsibility.*—The major function, performed by the Department of Commerce in the voluntary establishment of Commercial Standards on a nationwide basis is fourfold: First, to act as an unbiased coordinator to bring all interested parties together for the mutually satisfactory adjustment of trade standards; second, to supply such assistance and advice as past experience with similar programs may suggest; third, to canvass and record the extent of acceptance and adherence to the standard on the part of producers, distributors, and users; and fourth, after acceptance, to publish and promulgate the standard for the information and guidance of buyers and sellers of the commodity.

4. *Announcement and promulgation.*—When the standard has been endorsed by a satisfactory majority of production or consumption in the absence of active, valid opposition, the success of the project is announced. If, however, in the opinion of the standing committee or of the Department of Commerce, the support of any standard is inadequate, the right is reserved to withhold promulgation and publication.

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